



October 26, 2017

Mr. Anthony Krone
Risk Manager
Shelby County Schools
160 South Hollywood – Room 152
Memphis, Tennessee 38112

**RE: Lead in Drinking Water Sampling
Shady Grove Elementary School
5360 Shady Grove Road
Memphis, Tennessee
Tioga Project No.: 24816.03**

Dear Mr. Krone,

At the request of Shelby County Schools (the Client), Tioga Environmental Consultants (Tioga) performed sampling of drinking water sources at the above referenced school for laboratory analysis of total lead concentrations. At the request of the Client, sampling was conducted on potable water sources in the kitchen and water fountains throughout the first floor of the school. Sampling was conducted early in the morning, before any potable water sources had been used for the day and prior to the arrival of any students or faculty.

On October 9, 2017, Tioga representative Eric Davis arrived onsite and was escorted through the building by Shelby County Schools risk management personnel. First-draw potable water samples were collected in accordance with the Environmental Protection Agency (EPA) regulations codified in 40 CFR 141.86, and were documented and transferred under chain-of-custody protocol to Waypoint Analytical Laboratories in Memphis, Tennessee for analysis of total lead content.

Results Based on Laboratory Analysis:

Table 1 on the following page summarizes the sampling locations, laboratory analytical results, and EPA action level for lead in drinking water. Sample results with a “<” symbol did not contain lead content above the laboratory detection limit. Samples highlighted in yellow exceeded the EPA action level for lead.

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Table 1
Summary of Analytical Results
Shady Grove Elementary School
October 9, 2017

Sample ID	Sample Location	Total Lead ($\mu\text{g}/\text{L}$)	EPA Action Level ($\mu\text{g}/\text{L}$)
66-1	Kitchen Sink - Left	2.11	15
66-2	Cafeteria Cooler	<0.500	
66-3	Cooler Across from Room 104	<0.500	
66-4	Cooler Across from Room 122	<0.500	
66-5	Bubbler Next to Room 106A	0.788	
66-6	Bubbler Across from Room 107	1.13	
66-7	Bubbler Next to Room 116A	17.1	

($\mu\text{g}/\text{L}$) = Micrograms of lead per liter of water (parts per billion)

A review of the laboratory analytical results of the water samples collected revealed 1 sample with total lead concentrations above the EPA action level for drinking water. This sample was collected from the bubbler next to Room 116A.

Recommendations:

Based upon the laboratory analytical results of the seven potable water samples collected from Shady Grove Elementary School, Tioga recommends that the water fountain above the EPA action level be removed from service immediately. Due to the potential for lead solder and/or other lead-containing components in certain water fountain installations, Tioga recommends that all water fountains of similar style to the impacted water fountains also be removed from service pending further investigation. Due to elevated lead levels being discovered in water fountains at this site, Tioga recommends additional testing of all potable water sources at the site to determine all potential potable water sources with elevated lead levels.

Limitations

Potable water sources with elevated lead levels may potentially be present in areas of the property that are not addressed with this report. This investigation only included the potable water sources specifically addressed.

We appreciate the opportunity to provide you with this service. Should you have any questions regarding this report, please contact me at (901) 791-2432.

Sincerely,

TIOGA ENVIRONMENTAL CONSULTANTS, INC.



Margaret F. Strom, QEP, CHMM
President

Enclosure: (1) Laboratory Analytical Report

10/20/2017

Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis, TN, 38103

Ref: Analytical Testing
Lab Report Number: 17-285-0225
Client Project Description: Site 66
Project #24816.03

Dear Ms. Maggie Strom:
Waypoint Analytical, Inc. received sample(s) on 10/11/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,



Andy Parrish
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama #40750	Louisiana #04015	VA NELAP #460181	Texas #T104704180-11-6	Arkansas #88-0650
Mississippi	California #2904	NC #415	Oklahoma #9311	Virginia #00106
Kentucky #90047	Tennessee #TN02027	EPA #TN00012	Kentucky UST #41	





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Main 901.213.2400 ° Fax 901.213.2440
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06510

Tioga Environmental Consultants

Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Site 66
Information : Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0225**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91100**

Matrix: **Aqueous**

Sample ID : **66-1**

Sampled: **10/9/2017 11:13**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	2.11	µg/L	0.500	1	10/18/17 17:12	BKN	EPA-200.8

Lab No : **91101**

Matrix: **Aqueous**

Sample ID : **66-2**

Sampled: **10/9/2017 11:15**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 17:13	BKN	EPA-200.8

Lab No : **91102**

Matrix: **Aqueous**

Sample ID : **66-3**

Sampled: **10/9/2017 11:18**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 17:14	BKN	EPA-200.8

Lab No : **91103**

Matrix: **Aqueous**

Sample ID : **66-4**

Sampled: **10/9/2017 11:20**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 17:19	BKN	EPA-200.8

Qualifiers/
Definitions

DF

Dilution Factor

MQL

Method Quantitation Limit



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06510

Tioga Environmental Consultants

Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Site 66
Information : Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0225**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91104**

Matrix: **Aqueous**

Sample ID : **66-5**

Sampled: **10/9/2017 11:22**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	0.788	µg/L	0.500	1	10/18/17 17:21	BKN	EPA-200.8

Lab No : **91105**

Matrix: **Aqueous**

Sample ID : **66-6**

Sampled: **10/9/2017 11:23**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	1.13	µg/L	0.500	1	10/18/17 17:22	BKN	EPA-200.8

Lab No : **91106**

Matrix: **Aqueous**

Sample ID : **66-7**

Sampled: **10/9/2017 11:25**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	17.1	µg/L	0.500	1	10/18/17 17:23	BKN	EPA-200.8

Qualifiers/
Definitions

DF

Dilution Factor

MQL

Method Quantitation Limit

Cooler Receipt Form

Customer Number: **06510**

Customer Name: **Tioga Environmental Consultants**

Report Number: **17-285-0225**

Shipping Method

<input type="radio"/> Fed Ex	<input type="radio"/> US Postal	<input type="radio"/> Lab	<input type="radio"/> Other :	<input type="text"/>
<input type="radio"/> UPS	<input checked="" type="radio"/> Client	<input type="radio"/> Courier	Thermometer ID:	<input type="text"/> NA

Shipping container/cooler uncompromised? Yes No

Number of coolers received 1

Custody seals intact on shipping container/cooler? Yes No Not Required

Custody seals intact on sample bottles? Yes No Not Required

Chain of Custody (COC) present? Yes No

COC agrees with sample label(s)? Yes No

COC properly completed Yes No

Samples in proper containers? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test(s)? Yes No

All samples received within holding time? Yes No

Cooler temperature in compliance? Yes No

Cooler/Samples arrived at the laboratory on ice.
 Samples were considered acceptable as cooling process had begun.

Water - Sample containers properly preserved Yes No N/A

Water - VOA vials free of headspace Yes No N/A

Trip Blanks received with VOAs Yes No N/A

Soil VOA method 5035 – compliance criteria met Yes No N/A

High concentration container (48 hr) Low concentration EnCore samplers (48 hr)

High concentration pre-weighed (methanol -14 d) Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included? Yes No

Comments:

